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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/617,321	07/10/2003	Byung Jin Choi	PA88/MII-55-37	2821

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EXAMINER

DOUGHERTY, THOMAS M

ART UNIT

PAPER NUMBER

2834

DATE MAILED: 03/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/617,321

Applicant(s)

CHOI ET AL.

Examiner

Thomas M. Dougherty

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 77-95 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 77-80, 83-87 and 90-93 is/are rejected.
- 7) ☒ Claim(s) 81, 82, 88, 89, 94 and 95 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau. (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Drawings

The proposed drawing corrections of 7/10/03 are approved by the Examiner.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 77, 78, 80, 83, 84, 86, 87, 90, 91 and 93 are rejected under 35 U.S.C. 102(b) as being anticipated by Fukui et al. (US 4,909,151). Fukui et al. show [fig. 1(d)] a template (9) extending in a first plane from a substrate (1) extending in a second plane having an imprinting material disposed on a surface of said substrate (1), said method comprising: forming an oblique angle between said first plane and said second plane; and increasing a distance between said template (9) and said substrate (1) so that said template (9) is spaced-apart from said substrate (1).

Said angle is achieved by applying a force to said template (9) to cause said template (9) to be tilted with respect to said substrate (1), wherein said substrate (1) remains stationary.

Said increasing said distance is achieved by applying a force to said template (9), wherein said force is applied by a flexure system. Note the knee joint at the point of the angle.

Fukui et al. show [fig. 1(d)] a method of separating a template (9) from a substrate (1), with a first distance and a second distance defined therebetween, wherein said first distance is defined opposite said second distance, said method comprising:

increasing a first spacing between said substrate and said template so that a rate of change of said first distance is higher rate than a rate of change of said second distance; and increasing a second spacing between said substrate and said template so that a rate of change of said first distance and said second distance are substantially uniform.

Said increasing said first distance is achieved by applying a force to said template to cause a wedge between said template and said substrate at one end template-substrate interface, wherein said template is to be tilted with respect to said substrate and said substrate remains stationary.

Said second distance is achieved by applying increasing force to said template (9) to cause said template (9) to be substantially separated from said substrate (1).

Said increasing said second distance is achieved by applying a force to said template (9), wherein said force is applied by flexure system, as noted above.

Fukui et al. show [fig. 1(d)] a method of separating a template (9) extending in a first plane from an imprinting layer (1) extending in a second plane, said method comprising: forming an oblique angle between said first plane and said second plane to cause a wedge between said template (9) and said imprinting layer (1) at one end of a template-imprinting layer interface; and increasing a distance between said template (9)

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and said imprinting layer (1) so that said template (9) is spaced-apart from said imprinting layer (1).

Said angle is achieved by applying a force to said template (9) to cause said template (9) to be tilted with respect to said imprinting layer (1), wherein said imprinting layer (1) remains stationary.

Said increasing said distance is achieved by applying a force to said template (9), wherein said force is applied by a flexure system, as noted above.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 79, 85 and 92 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukui et al. (US 4,909,151). Fukui et al. don't show that the angle is achieved by applying a force to said substrate (1) to cause said substrate (1) to be tilted with respect to said template (9), wherein said template (9) remains stationary.

Fukui et al. don't show the increasing of said first distance as being achieved by applying a force to said template to cause a wedge between said template and said substrate at one end of said template-substrate interface, wherein said substrate is to be tilted with respect to said template and said template remains stationary.

Fukui et al. do not show said angle being achieved by applying a force to said imprinting layer (1) to cause said imprinting layer (1) to be tilted with respect to said template (9), wherein said template (9) remains stationary.

It would have been obvious to one having ordinary skill in the art to apply the force to the substrate instead of the template in the device of Fukui et al. at the time the invention was made since this is the precise same effect producing the exact same result, without any more or any less difficulty. As such, the use of force on one component to separate it from the other component is shown by the prior art, and choosing to apply that force therefore involves no inventive step whether it is on the one or the other component.

Allowable Subject Matter

Claims 81, 82, 88, 89, 94 and 95 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: the prior art fails to show or fairly suggest separation of a template from a substrate in which an oblique angle is formed between the respective planes of the template and substrate in the act of separation, which act is caused by a piezoelectric actuator attached to both components and activated to force separation.

Conclusion

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The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The remaining prior art cited reads on at least some aspect or aspects of the claimed invention.

Direct inquiry concerning this action to Examiner Dougherty at (571) 272-2022.

tmd
tmd

March 1, 2004

Thomas M. Dougherty
THOMAS M. DOUGHERTY
PRIMARY EXAMINER
GROUP 2100